## State of New Mexico

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Department

Oil Conservation Division 1220 South St. Francis Dr. July 21, 2008

Form C-144 CLEZ

For closed-loop systems that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure, submit to the appropriate NMOCD District Office.

# Santa Fe, NM 87505 Closed-Loop System Permit or Closure Plan Application

(that only use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

Type of action: Permit Closure

Instructions: Please submit one application (Form C-144 CLEZ) per individual closed-loop system request. For any application request other than for a

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordina	ices.	
Operator: Cimarex Energy Co. of Colorado OGRID #: 162683		
Address: 600 N. Marienfeld St., Ste. 600; Midland, TX 79701		
Facility or well name: JG State No. 1		
API Number: 30-025- 3 93 16 OCD Permit Number: P1-02194		
U/L or Qtr/Qtr N Section 16 Township 17S Range 32E County: Lca		
Center of Proposed Design: Latitude 32° 49' 42.06" Longitude 103° 46' 24.59" NAD: ☐ 1927 ☐ 1983		
Surface Owner:  Federal State Private Tribal Trust or Indian Allotment		
2. Subsection H of 19.15.17.11 NMAC		
Operation: Drilling a new well Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)		
☐ Above Ground Steel Tanks or ☒ Haul-off Bins		
3.		
Signs: Subsection C of 19.15.17.11 NMAC		
12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers		
Signed in compliance with 19.15.3 103 NMAC		
4. Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC		
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.		
Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC		
<ul> <li>✓ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>✓ Closure Plan (Please complete Box 5) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC</li> </ul>		
Previously Approved Design (attach copy of design)  API Number:		
Previously Approved Operating and Maintenance Plan API Number:		
S.  Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)  Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.		
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Disposal Facility Name: CRI Disposal Facility Permit Number.	26	
Disposal Facility Name: CRI Disposal Facility Permit Number. R-9166 Nm-01-00  Disposal Facility Permit Number: Disposal Facility Permit Number:	26	
Disposal Facility Name: Disposal Facility Permit Number: Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operation		
Disposal Facility Name: Disposal Facility Permit Number: Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operation Yes (If yes, please provide the information below) \( \bigsize \) No  Required for impacted areas which will not be used for future service and operations:  Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC		
Disposal Facility Name: Disposal Facility Permit Number: Will any of the proposed closed-loop system operations and associated activities occur on or in areas that will not be used for future service and operation. Yes (If yes, please provide the information below) No  Required for impacted areas which will not be used for future service and operations:  Soil Backfill and Cover Design Specifications based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC  Re-vegetation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC		
Disposal Facility Name:		
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District II

District III

1000 Rio Brazos Road, Aztec, NM 87410 District IV

1301 W. Grand Avenue, Artesia, NM 88

1220 S. St Francis Dr , Santa Fe, 70

7. OCD Approval: Permit Application (including closure plan)  Closure Plan (only)		
OCD Representative Signature:		
Title: Geologist 5.	OCD Permit Number: P1-02184	
Closure Report (required within 60 days of closure completion): Subsection K of 19,15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.		
	Closure Completion Date:	
Schools See State		
Disposal Facility Name:	Disposal Facility Permit Number:	
Disposal Facility Name:	Disposal Facility Permit Number:	
Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?  Yes (If yes, please demonstrate compliance to the items below) \( \subseteq \text{No} \)		
Required for impacted areas which will not be used for future service and operat  Site Reclamation (Photo Documentation)  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique	ions:	
Operator Closure Certification:  I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.		
Name (Print):	Title:	
Signature:		
e-mail address:	Telephone:	

### Cimarex Energy Co. of Colorado – Closed-Loop System Design Plan

#### **Equipment List**

- Primary Shakers
- Mud Cleaner hydro-cyclones
- 1 or 2 Centrifuges (depending on well depth)
- De-watering system with pH adjustment, coagulant mixing and dosing, and polymer mixing and dosing (may not be necessary for shallower wells)
- Drying Augur
- Sump Drying Augur
- Sump
- Cuttings Boxes
- Reserve Fluids Tank Farm
- Wire Mesh Trash Enclosure (spent motor oils kept in separate containers and later sent to approved landfill)

#### **Operation and Maintenance**

The Cimarex Zero Discharge system is designed to maintain drill solids at or below 5%. The equipment is arranged to progressively remove solids from the largest to the smallest size. Drilling fluids can thus be reused and savings is realized on mud and disposal costs. Dewatering may be required with the centrifuges to insure removal of ultra fine solids.

The drilling location is constructed to allow storm water to flow to a central sump normally the cellar. This ensures no contamination leaves the drilling pad in the event of a spill. Storm water is reused in the mud system or stored in a reserve fluid tank farm until it can be reused. All lubricants, oils, or chemicals are removed immediately from the ground to prevent the contamination of storm water. An oil trap is normally installed on the sump if an oil spill occurs during a storm.

A tank farm is utilized to store drilling fluids including fresh water and brine fluids. The tank farm is constructed on a 20 ml plastic lined, bermed pad to prevent the contamination of the drilling site during a spill. Fluids from other sites may be stored in these tanks for processing by the solids control equipment and reused in the mud system. At the end of the well the fluids are transported from the tank farm to an adjoining well or to the next well for the rig.

These closed loop operations can be monitored by our service technicians. Daily logs are maintained to ensure optimal equipment operation and maintenance. Screen and chemical use is logged to maintain inventory control. Fluid properties are monitored and recorded and drilling mud volumes are accounted for in the mud storage farm. This data is kept for end of well review to insure performance goals are met. Lessons learned are logged and used to help with continuous improvement.

Spill prevention is accomplished by maintaining pump packing, hoses, and pipe fittings to insure no leaks are occurring. During an upset condition the source of the spill is isolated and repaired as soon as it is discovered. Free liquid is removed by a diaphragm pump and returned to the mud system. Loose topsoil may be used to stabilize the spill and the contaminated soil is excavated and placed in the cuttings boxes. After the well is finished and the rig has moved, the entire location is scrapped and tested for all regulated toxic materials. If found they are removed and disposed of per regulatory requirements.

#### Closure Plan

During drilling operations, all liquids, drilling fluids, and cuttings will be hauled off via CRI (Controlled Recovery Incorporated, Permit R-9166).



# Closed Loop with Drying Auger and Dewatering System

